NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

CLOSURE OF WASTE IMPOUNDMENTS

(Number)

Code 360

DEFINITION

The closure of waste impoundments (treatment lagoons and waste storage ponds), that are no longer used for their intended purpose, in an environmentally safe manner.

PURPOSE

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- To protect the quality of surface water and groundwater resources;
- To eliminate a safety hazard for humans and livestock;
- To safeguard the public health.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to animal Waste Treatment Lagoons and Waste Storage Ponds (Impoundments) that are no longer used for their original intended purpose.

CRITERIA

Objective

The objective is to remove waste materials to the maximum extent practicable from a lagoon/structure prior to closure.

Water Quality Testing

No special water quality testing will be required, *unless the waste impoundment is a candidate for the Alternate Method of Closure.*

All sludge will be removed as determined by visual inspection.

Removal of Inflow Devices

All devices used to convey animal waste into the lagoon or storage pond shall be removed.

Spillways

All abandoned impoundments that are not breached or filled that have an embankment of 3 feet or more, shall have a principal spillway and an emergency spillway installed that meets the requirements of the Pond Conservation Practice Standard (Code 378).

Excavated Pits

For excavated pits that were previously used for waste treatment lagoons or waste storage ponds that are to be closed, all reasonable efforts must be made to agitate and remove all waste materials. If the bottom of the lagoon/structure is above the water table at the time of closure and will support earth-moving equipment, it must be scraped. A qualified technical specialist must determine the soil stability for earth moving equipment. For lagoons/structures that are not to be scraped and those with bottoms documented to be below the water table at the time of closure, the depth of “agitated” waste material remaining in the lagoon/structure at the time of closure may not exceed a maximum depth of one (1) foot.

The wastewater will be analyzed and land applied in accordance wih the requirements of the Waste Utilization Conservation Practice Standard (Code 633).

Once all sludge is removed, the owner has the option of using the structure as a fresh water pond, or the pit may be filled.

Embankment Structures

If a lagoon/structure is to be breached, the liquid must be pumped out and the remaining waste material scraped. Reasonable efforts must be made to remove all waste materials prior to closure.

For impoundments not to be breached, reasonable efforts must be made to agitate and

remove all waste materials. If the bottom of the lagoon/structure is above the water table at the time of closure and will support earth-moving equipment, it must be scraped. A qualified technical specialist must determine the soil stability for earth moving equipment. For impoundments that are not to be scraped and those with bottoms documented to be below the water table at the time of closure, the depth of "agitated" waste remaining in the impoundment may not exceed a maximum depth of one (1) foot.

The waste water will be analyzed and applied to crops at agronomic rates based on Realistic Yield Expectation (RYE) in accordance with the Nutrient Management Conservation Practice Standard (Code 590).

If intended for use as a fresh water pond, the requirements under the "Spillways" section of this standard shall be met.

The embankment may be:
1) breached so that it will no longer impound liquid, or
2) be left intact and allowed to fill with fresh water for use as a fresh water pond.

If the embankment is breached, the slopes and bottom of the breach shall be stable for the soil material involved, but the side slopes shall be no steeper than 3:1.

Alternate Method of Closure:

There are existing impoundments that may be closed by the following alternate method. This alternative closure process consists of vacuum dredging the sludge and leaving the liquid.

*Impoundments which have a liquid waste analysis of more than 40 parts per million of total N before sludge removal can **not** be closed by this alternate method.*

Locations on the lagoon bottom where sludge is 0.2 foot or greater must be dredged. Where the sludge is less than 0.2 foot in depth, dredging is not required.

Sludge must be removed to the fullest extent practical on the slopes, but in no case shall there be more than 0.2 ft. of sludge in the bottom when finished.

The impoundment must be converted to a fresh water pond. Spillways, if required under this standard, must meet the requirements of the Pond Conservation Practice Standard (Code 378).

Required documentation for the above criteria include:

1. *A liquid waste analysis performed by the NCDA&CS or other accredited lab. The sample shall be taken by Division of Soil and Water Conservation (DSWC) staff, Division of Water Quality (DWQ) staff, or NRCS staff with a WUP designation as a technical specialist.*

2. *A survey of the lagoon showing the bottom elevation and depth of sludge before and after dredging using a "sludge judge" or other measuring device made for this purpose, on a 25 foot grid, or closer, if needed to show true size and volume of sludge. The survey and volume computations shall be signed by a technical specialist with the SD or SI designation.*

3. *A representative from DWQ, DSWC, or an NRCS Engineer or Civil Engineering Technician must verify that the sludge has been satisfactorily removed.*

*Lagoons which have a liquid waste analysis of more than 40 parts per million of total N before sludge removal can **not** be closed by this alternate method.*

Vegetation

All disturbed areas shall be vegetated and maintained in accordance with the Critical Area Treatment Technical Guide Standard (Code 342).

CONSIDERATIONS

The proper removal of organics and nutrients and prevention of pollutant discharges to surface waters is the responsibility of the owner.

PLANS AND SPECIFICATIONS

Plans and specifications for closure of abandoned waste treatment lagoons and waste storage ponds shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

If the waste facility being converted to a fresh water pond is required to meet the Pond Conservation Practice Standard (Code 378) , the plans and specifications will also be in keeping with the requirements of that standard.

OPERATION AND MAINTENANCE

A properly decommissioned waste impoundment should require little or no operation and maintenance; however, if it has been converted to another use, such as a fresh water pond, operation and maintenance will be in accordance with the needs as set forth in the Pond Conservation Practice Standard (Code 378).